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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,606	08/18/2003	Rene Mattern	FA1093USNA	4930
23906 7590 05/16/2007 E I DU PONT DE NEMOURS AND COMPANY LEGAL PATENT RECORDS CENTER BARLEY MILL PLAZA 25/1128 4417 LANCASTER PIKE WILMINGTON, DE 19805			EXAMINER SELLMAN, CACHET I	
			ART UNIT 1762	PAPER NUMBER
			MAIL DATE 05/16/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/643,606	Applicant(s) MATTERN ET AL.	
	Examiner Cachet I. Sellman	Art Unit 1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 March 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,4 and 6-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,4 and 6-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

Acknowledgement is made of the amendment filed by the applicant on 3/5/2007, in which claim 2 was cancelled. Claims 1, 3-4, and 6-8 are currently pending in U.S. Application Serial No. 10/643,606.

#### ***Response to Arguments***

1. Applicant's arguments filed 3/5/2007 have been fully considered but they are not persuasive. The applicant argues there is no motivation to combine the teachings of Emch-Rekowski with Crane and Anazai because they use filters for completely different applications. Emch and Rekowski are directed towards processes for powder coating cars using near infrared radiation but do not teach using filters to restrict the wavelengths. Crane teaches using UV absorbing filter with glasses on tungsten halogen lamps.. Crane et al. teaches how UV can be detrimental to paints and plastics. It would have been obvious to use this teaching with that of Emch and Rekowski because Emch and Rekowski are applying plastic coatings on to cars therefore one would use the glass in order to restrict wavelengths in order to prevent degradation and discoloration of the coating.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claims 1, 3-4 and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Emch (US 2002/0071918 A1) in view of Rekowski et al. (US 2003/0031804 A1), Crane et al. (US 6677260 B2) and Anzai et al. (US 4837478).

Emch discloses a process for coating a substrate by first applying a powder coating to the surface (abstract) then treating the surface with NIR having a wavelength form 0.7 – 7 micrometers (700 – 4000 nm).

Emch does not teach using a filter coated with borosilicate glass, silica glass or vitreous ceramic to restrict the wavelength to 250 – 3000 nm, wherein the restricted NIR radiation has a wavelength ranging form 750 – 1200 nm as required by **claim 1**.

Rekowski et al. discloses a process for powder coating a substrate, such as a car [00021] and curing the coating by using NIR radiation in the wavelength of 760 – 1500 nm (abstract). Rekowski further discloses that curing in this range results in coatings having rapid curing, sufficient hardness and a good surface quality [0007].

Crane et al. discloses a glass that is capable of absorbing UV radiation and filtering in the visible region that can be used for tungsten halogen lams ad other high temperature light sources (abstract). The glass is a silica glass and has a transmission greater than 90% in the near infrared region between 760-2500 nm (col. 5, lines 8-17).

Anzai et al. discloses device that is capable of radiation light rays in the near-infrared region (abstract). The device is made of an electric discharge lamp and filter, which removes the visible region and permits the near infrared to pass through (abstract). The filter is glass coated with an absorbing agent such as molybdenum oxide, chromium oxide, etc. which has a transmission rate of zero in the visible light and transmission greater than 80% in the wavelength range from 750 – 1000 nm (col. 3, lines 25-64).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the process of Emch to include using the wavelengths of Rekowski. One would have been motivated to do so because both Emch and Rekowski et al. disclose processes for powder coating a three dimensional object such as a car and irradiating the coating with NIR. Rekowski et al. further discloses that using wavelengths in the range of 760- 1500 nm results in rapid curing, sufficient hardness and good surface quality therefore one would have a reasonable expectation of success in irradiating the powder coating to have sufficient hardness and good surface quality.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the process of Emch and Rekowski to include the filter of Crane et al. and Anzai et al. One would have been motivated to do so because Emch in view of Rekowski disclose the use wavelengths in the range of 760-1500 nm but does

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not disclose how to restrict the wavelengths; Crane et al. teaches a silica glass that is capable of transmitting in the near infrared region when used with a halogen lamp (NIR emitter) and Anzai et al. teaches a coating that can be applied to glass that will shorten the wavelength range that is transmitted to 750-1000 nm therefore one would have a reasonable expectation of success in using the glass coated with an absorbing agent in order to transmit wavelengths in the range of 760-1500 nm.

Emch teaches the use of combined radiation and a heated convection oven to treat the coating [0049] as required by **claims 3 and 4**. Anzai et al. teaches that the filter is coated with an absorbent substance as required by **claim 6**. Rekowski et al. discloses that the coating is cured within no more than 60 seconds [0065] as required by **claim 7**. Emch discloses that the coating is applied to an automobile [Fig. 2 and 0003] as required by **claim 8**.

### ***Conclusion***

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cachet I. Sellman whose telephone number is 571-272-0691. The examiner can normally be reached on Monday through Friday, 7:00 - 4:30pm.

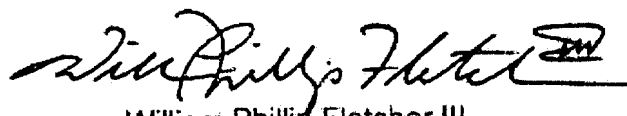
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Cachet I Sellman  
Examiner  
Art Unit 1762

cis

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A handwritten signature in black ink, reading "William Phillip Fletcher III". The signature is stylized with a large, sweeping "W" and a prominent "F".

William Phillip Fletcher III  
Primary Examiner  
Art Unit 1762